UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
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ATLANTA, GEORGIA 30365

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REF: 4WD-SSRB

YELLOW

James C. Brown, Manager
Environmental Affairs Department
Olin Chemicals Corporation
Post Office Box 248
Charleston, Tennessee 37310

RE: Olin Corp./McIntosh Plant Superfund Site
McIntosh, Alabama - Hazardous Substance Indicator Parameter Technical Memorandum

Dear Mr. Brown:

Please find enclosed comments on the Hazardous Substance Indicator Parameter Technical Memorandum. As it stands, this document is not approvable. However, instead of resubmitting this document (which was not the intent of the approval process), these comments should be incorporated into the Baseline Risk Assessment and any other subsequent submittals, as applicable. A line-by-line response to each of the enclosed comments is requested on or before April 8, 1992. In addition, if any of the enclosed comments need to be addressed prior to the submittal of the Phase II Sampling and Analysis Plan then we may need to have a meeting to discuss these issues. Otherwise, I expect these comments to be incorporated into the Phase II document which is also due in this office on April 8, 1992.

Forthcoming is EPA's response to your presentation during our February 19, 1992 technical meeting. Please do not let this preclude your April 8, 1992 submittal. This office has previously presented our concerns on the level of characterization for Operable Unit 1 (June 1991 meeting, aerial photography analyses), therefore, I feel you are aware of our concerns and will address them in this next round of sampling. In addition, our forthcoming comments will conclude any issues/concerns that may still be outstanding from the June 1991 meeting.

At some point, I would like to discuss your comments on the Aerial Photography Analysis performed by the EPA Environmental Photographic Interpretation Center. I will be in touch with you regarding this matter. If there are any questions or concerns, please feel free to give me a call at (404)347-2643.

Sincerely,

Cheryl W. Smith
Remedial Project Manager
South Superfund Remedial Branch

Enclosure

cc: Joe Downey, ADEM (w/enclosure)
Toni Odom (w/enclosure)

bcc: Joyce Catrett, ORC (w/out enclosure)
Beverly Williams, RCRA
Lynn Wellman, WASTMD, Health Risk Assessment (w/enclosure)
Elmer Akin, WASTMD, Health Risk Assessment (w/enclosure)

TECHNICAL REVIEW COMMENTS
HAZARDOUS SUBSTANCE INDICATOR
PARAMETER TECHNICAL MEMORANDUM
Olin Corporation/McIntosh Plant
McIntosh, Alabama

General Comments

1. Exposure assessment resulting from inhalation of ground water is not being considered. Although this does not affect the list of potential chemicals of concern, this inhalation exposure for ground water and surface water should be included for risk assessment purposes.

2. Arsenic was eliminated in some media because of low concentrations. According to Risk Assessment Guidance for Superfund (RAGS, 1989), arsenic is a known human carcinogen (weight of evidence classification A). Therefore, it must be considered a potential chemical of concern (PCOC).

3. The document should clearly state that since the data have not been validated, there may be changes in the list of potential chemicals of concern.

4. The document should also state that, if later phases of work present new or different data, new constituents may be added to the list of potential chemicals of concern.

5. Specific comments 20 and 21 indicate additions and corrections that should be made to the maximum concentration values listed in Tables 1 and 2. Note that these changes will affect the Hazard Factor calculations as well as the Hazard Decision Factor for those affected compounds. These should be recalculated appropriately.

6. There should be footnotes defining the sample codes on all of the appendices. All appendices should also have individual page numbers.

7. Apparently only the human health guidance (RAGS, Vol. I) was utilized in developing the preliminary list of chemicals of concern. However, the list should be reevaluated by using the ecological guidance (RAGS, Vol. II), in addition to the human health guidance (RAGS, Vol. I). EPA draws this conclusion based on the fact that it is not apparent that ecological benchmarks were considered in selecting the PCOCs for OU#2.

8. Section 5 provides a "half-truth" and misstates the RAGS guidance relative to chemical of concern reductions. It does not "recommend" any reduction but discusses a situation where the contaminants that represent 99% of the risk would

be dealt with in the report text and the remainder in an appendix.

Specific Comments

1. Executive Summary, page ES-2, paragraph 1, last sentence
The word "form" should be changed to "from."

2. Section 1.0, page 1, paragraph 2
This paragraph describes the site vicinity. It is stated that the west side of the site is bounded by "land." The contractor believes that this is land used by Olin and, possibly, owned by Olin. A more detailed description of the land is needed.

3. Section 1.0, page 2, paragraph 2
It is stated that chloroform is "probably a degradation product from the operation of the Crop Protection Chemicals (CPC) plant from 1954 to 1982." The degradation products of all of the compounds manufactured at the CPC plant during this time [pentachloronitrobenzene (PCNB), trichloroacetonitrile (TCAN), and 5-ethoxy-3-trichloromethyl-1,2,4-thiadiazole (terrazole)] should also be presented.

4. Section 2.1, page 5, paragraph 3
The second sentence in this paragraph is unclear. It states that the purpose of the Environmental Impact Study was "to evaluate the impact of the construction of a chloro-alkali diaphragm cell process at the McIntosh plant site." Does this mean process building, process system, or process unit? Please clarify.

5. Section 2.1, page 6, paragraph 3
This paragraph indicates that the ground water flow direction was established. Please state the direction.

Please do not refer to the contaminants as "parameters" (i.e "hydrogeological parameters"). This terminology adds confusion.

6. Section 2.2, page 8, paragraph 2
When describing the concentration ranges of mercury and pentachloronitrobenzene, the method detection limits used should also be stated, as was done for hexachlorobenzene.

7. Section 2.2, page 8, paragraph 3
This paragraph mentions that mercury in water was detected at or below the drinking water standards. Please state the drinking water standard value that was used for comparison, and reference the source from which this value was obtained.

8. Section 3.1, page 9, paragraph 1
The document should include a table indicating the depths of the monitoring wells sampled and from which aquifer the ground water is being drawn.

9. Section 4.0, Contract Laboratory Program Analytical Results, page 12, paragraph 3
The first sentence says that "Table 1 summarizes the Target Compound List organic parameters that are interpreted to be detected based on the CLP Data." Be specific, indicate what this detection is based on and define the detection criteria, such as contract-required quantitation limit (CRQL), detection limit (DL), quantitation limit (QL), or some other determined value.

10. Section 4.0, CLP Analytical Results, page 13, paragraph 1
This sentence states that carbon disulfide is a laboratory contaminant and therefore was considered nondetected in the sediment or surface water samples. This compound is, however, included in the surface water section of Table 1.

11. Section 4.0, CLP Analytical Results, page 13, paragraph 1
Please clarify what specific "professional judgement" modified the functional-guideline base selection decision (pg. 13).

12. Section 4.0, CLP Analytical Results, page 13, paragraph 1
It should be stated that phthalate esters including bis(2-ethylhexyl)phthalate, are qualified as nondetected in ground water. This will support the omission of diethylphthalate identified in sample PL-9D, which was presented in Table 1.

13. Section 4.0, CLP Analytical Results, page 13, paragraph 1
Carbon disulfide was also considered for the list of potential chemicals of concern in ground water (Table 1). Please add this fact to the sentence. Beginning the sentence with a transitional phrase, such as "Although they are common laboratory contaminants,. . ." would make it read more clearly.

14. Section 4.0, CLP Analytical Results, page 13, paragraph 3
EPA agrees with the statement inferred in this paragraph that all contaminants detected in the media samples including TICs will be addressed in some way in the baseline risk assessment document.

15. Section 4.0, CLP Analytical Results, page 13, paragraph 4
This paragraph indicates that total dissolved inorganics are used to determine the maximum reported values for ground water. However, both dissolved and total inorganics are used for surface water. There was no mention of sediments. Based on the tables and appendices, it appears that both dissolved and total inorganics were used to determine the maximum reported values for sediments. Please clarify.

16. Section 4.0, CLP Analytical Results, page 14, paragraph 1
Please note that all ground water data used in exposure point concentration for the risk assessment must be from unfiltered samples with reasonable sample detection limits for each chemical of interest. (It is unclear what "normalizing the data" entailed).

17. Section 4.0, CLP Analytical Results, page 14, paragraph 3
Explain the rationale for the decision to eliminate compounds from the ground water medium and no other. For example, the organic list may have been unmanageable, or the other media may not have met the criteria for deletion. In addition, the 8 contaminants eliminated on the bases of occurring at levels below CRQL (pg 14) should be reevaluated for any "hits" occurring above relevant MCLs or proposed MCLs. (Many of the CRQLs for VOCs are above the ARAR level). In addition, any carcinogens that occur at maximum concentrations that result in a calculated dose greater than 10^{-6} risk level should be selected as a contaminant of potential concern.

Alpha-chlordane was not listed in the ground water section of Table 1. It should be added, since it was detected in sample BR-7.

18. Section 5.0, page 16, paragraph 2, first sentence
Please identify which table(s) are being referred to in this sentence.

19. Section 5.1, page 18, paragraph 2
In the next to last sentence, the word "cyanide" is repeated.

20. Table 1, Summary of Organic Compounds
The tentatively identified compounds in this table have no associated data sheets in the appendices. Also, the N qualifier with which their concentrations were flagged, is not defined in this table or any of the appendices.

Table 1 needs correction to remedy a "D" notation in the body, not in the footnotes and an "E" notation in the footnotes, not in the body.

Bromoform, a volatile organic compound, should be added to the surface water section of this table. It was detected in Sample WG-BD03. Also, according to Appendix A, the maximum reported concentration of carbon disulfide is 3J, not 4J.

Some corrections and additions need to be made to the pesticide/polychlorinated biphenyls section concerning the sediment samples.

Add: Endosulfan I, with a maximum concentration of 110PD µg/kg (detected in Sample SG-C5)

Dieldrin, with a maximum concentration of 15P µg/kg (detected in Sample SG-F7)

Endosulfan II, with a maximum concentration of 51 µg/kg

Correct: Gamma chlordane has a maximum concentration of 78, not 78P

Aldrin has a maximum concentration of 4.7P, not 5.0P

21. Table 2, Summary of Inorganic Analytes
Corrections should be made to the inorganic sediment maximum concentration values, based on information in the appendices.
Correct: Cadmium from 0.78 mg/kg to 1.0 mg/kg

Copper from 57.8 mg/kg to 50.4 mg/kg

Cyanide from 1.5 mg/kg to 0.47 mg/kg

Mercury from 290 mg/kg to 30.1 mg/kg

Silver from 1.0 mg/kg to 1.36 mg/kg

Thallium from ND4 mg/kg to 0.9 mg/kg

Zinc from 227 mg/kg to 205 mg/kg

22. Figure 3, Ground Water Sampling Well Location Map
In the legend, the designation for alluvial aquifer wells vs. Miocene aquifer wells should indicate only that the solid circle denotes alluvial and the solid triangle denotes Miocene. Use of the prefixes before the well number (i.e."PL-4S" and "DH-3") is confusing since not all wells in the same aquifer have the same prefixes. On the figure, the prefixes PL and DH appear to represent alluvial and Miocene wells, respectively.

Also, ground water sample D/WW-12 is not on the sample location map. Please explain why it does not appear.

23. Appendix A, Preliminary Ground Water Data
According to the page numbering, there are two sections for all organic compound lists. Please explain the reason for this (such as different analytical methods were used, it represents two separate sampling episodes, or whatever the case may be).

24. Appendix B, Preliminary Surface Water Data
Sample WG-H5/01, in the total inorganic constituent table, has a superscript "1" after the ND flag. If there is a difference between the not detected "ND" and an "ND[1]," please explain this designation.

Similarly, Page 1 of 3 of the Preliminary Surface Water Dissolved Inorganic Constituents has a footnote of [1] ND = Not detected; however, there is no footnote in the body of the table.